NOAA Cloud Vision & Strategy

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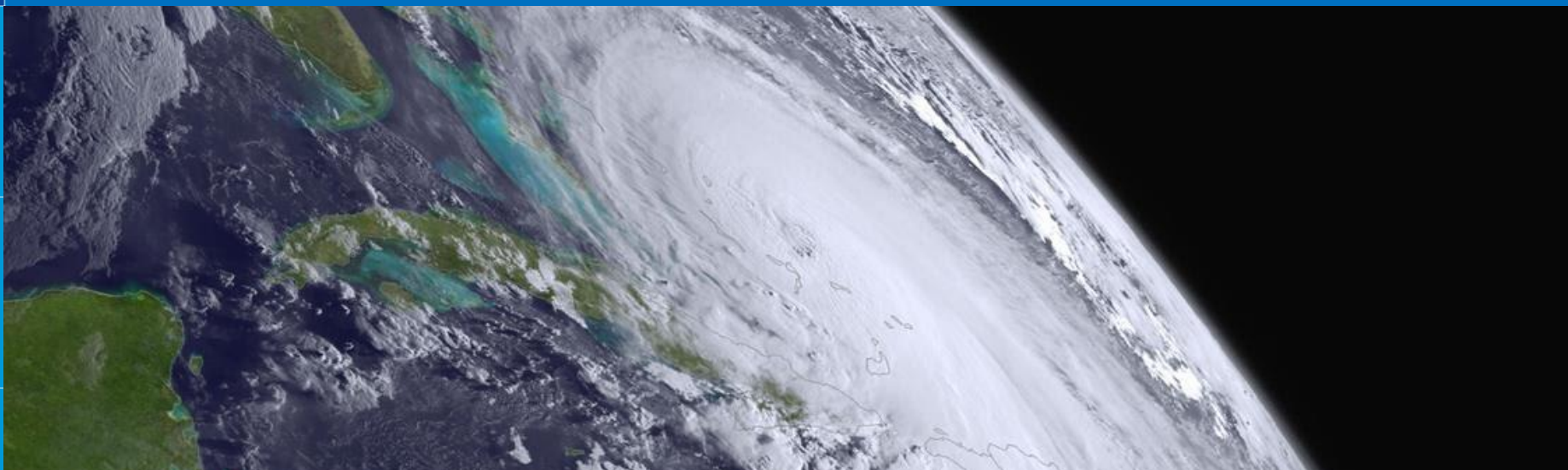
NOAA's Cloud Vision

Identify and **migrate** suitable IT services to a commercial cloud computing environment that supports:

- Reducing costs;

- Increasing IT provisioning speed;

- Unlimited seamless scalability; and

- Maintaining high level of security

Key Tenet of Vision: Ensure that NOAA Numerical Weather Prediction enterprise is no longer constrained by hardware resources, which enables us to produce the preeminent global model

Other Tenets of the Cloud Vision

i.   **One NOAA Approach:** Migrate as one organization with common approaches to reduce complexity and latency

ii. **IT Security**: Adequate security that is compliant with NIST guidelines

iii. **High Performance Computing (HPC) Scalability**: Transform current software development approaches that are limited by on-premise HPC resources

iv. **Consolidated Data**: Aggregate all NOAA data with a single cloud provider

v.   **Common HPC Computing Framework**: Leverage a common cloud HPC framework that is data-source agnostic

vi. **Crowd Source Code**: Make NOAA's code and HPC code available to trusted non-NOAA community for enhancements

vii. **Culture Transformation**: Pivot current rigid, risk-averse culture to one which embraces and empowers innovation

High Level Overview of NOAA's Current end-to-end Product and Data Management

All aspects of products and data management should be taken into consideration when exploring Enterprise Cloud solutions.
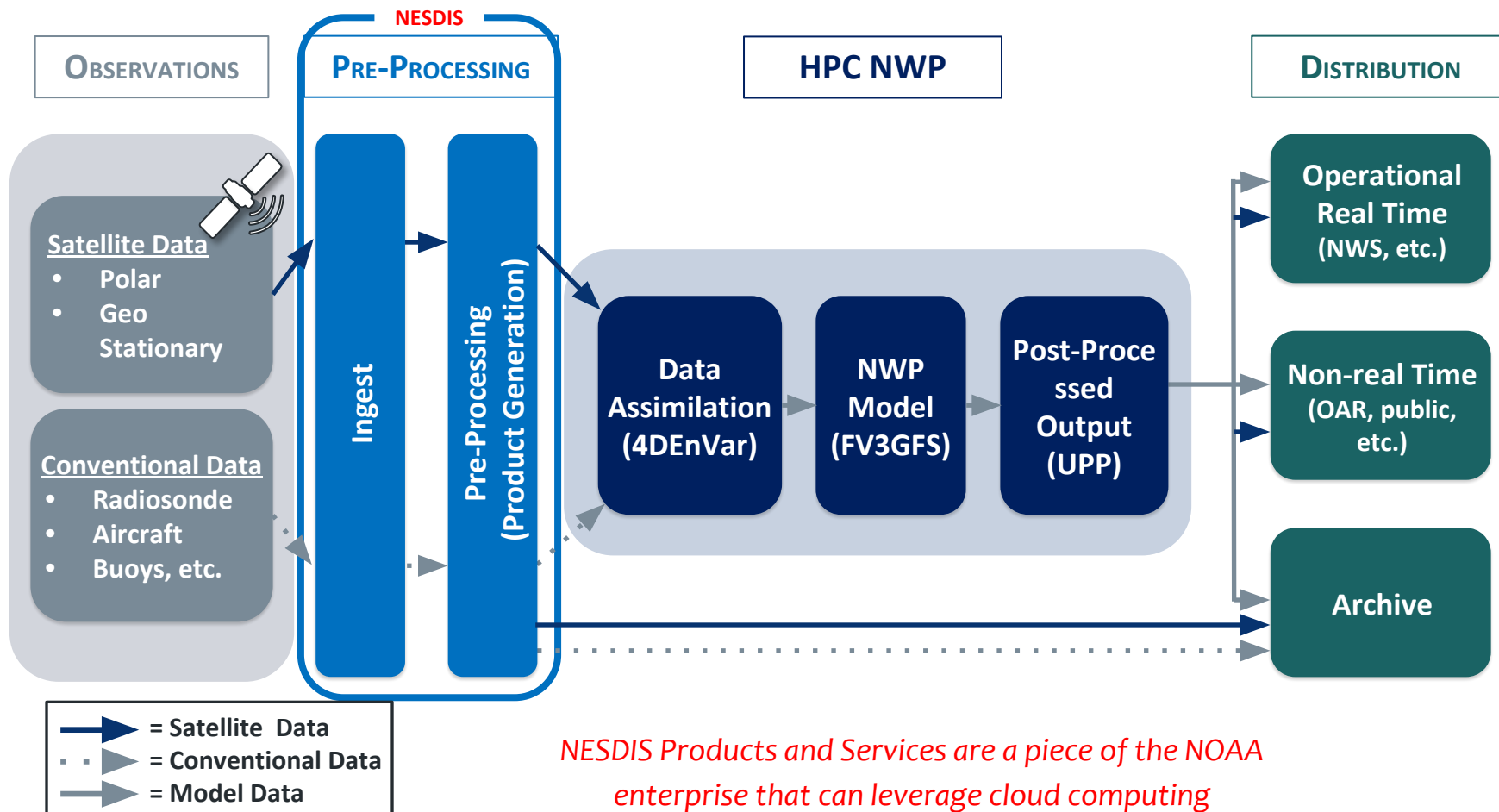
NESDIS Products and Services are a piece of the NOAA enterprise that can leverage cloud computing

Path for Transformation

- Embrace innovative technologies and **operationalize services** where feasible; piloting and proof-of-concepts is not enough

- Adopt Agile methodologies and transform how we think about receiving; processing; managing; and distributing our data

- Leverage NOAA cloud enterprise Big Data Project & Cloud Utility contracts

- Develop common cloud IT services that are:
    i. Commercial cloud agnostic
    ii. Data agnostic
    iii. Work across the NOAA enterprise

- Migrate to the cloud from a **'services' not 'systems' perspective**

    - *Building systems to a defined set of requirements is antiquated - we need to build and offer enterprise cloud services which leverage commercial cloud capabilities (i.e. scalability, efficient etc.)*

- Shift the NOAA culture to focus & **embrace innovative technologies**

    - *Federal workforce must drive the strategic innovative change, not our contractors/partners*

- Adhere to industry best practices for IT architecture and development